T-cell lymphoma of the thyroid

Surface marker studies on lymphocytes have shown that many non-Hodgkin's lymphomas, especially the nodular variety, are of B-cell type, while only a small proportion—mainly those occurring in young people—are of T-cell type.^{1,2} We believe that this is the first account of a primary T-cell lymphoma of the thyroid.

Case report

A 73-year-old woman was referred to hospital with a two-month history of a painless swelling in the neck. She was clinically euthyroid and had a nodular non-tender swelling in the left lobe of the thyroid. The results of antithyroglobulin tanned red cell and antimicrosomal fluorescent antibody tests were negative. A full blood count was normal. Surgical exploration showed that the left lobe of the thyroid was replaced by a fleshy mass, but the isthmus, right lobe, and adjacent cervical lymph nodes appeared normal. After examination of a frozen section the left lobe of the thyroid was removed. The specimen, which was received unfixed, measured 8.0 × 7.0 × 4.5 cm. It had a slightly nodular outer surface and a uniform white cut surface. Sections showed almost complete replacement of the thyroid parenchyma by a malignant lymphoma with a varied appearance. In places, the cells had slightly irregular nuclei a little larger than mature lymphocytes, but elsewhere the cells had larger nuclei which were often irregular showing numerous mitotic figures and surrounded by a moderate amount of pyroninophilic cytoplasm. A few non-neoplastic histiocytes with abundant pink cytoplasm were also present.

Lymphocyte surface marker studies were carried out on a cell suspension prepared from the fresh surgical specimen.³ 99% of the viable tumour cells (80% viability) formed E-rosettes with sheep red blood cells, while only 1% showed surface immunoglobulin. A rosette cell pellet was also processed for electron microscopy (see figure). Postoperative radiotherapy was given to the thyroid region, and the patient is alive and free from evidence of disease two years after operation.

Lymphoid cell with an irregular nucleus surrounded by sheep red cells. (×10 890.)

Comment

Primary lymphomas of the thyroid are uncommon and may be difficult to distinguish from anaplastic small cell carcinoma.⁴ In this case, the histological and electron microscopical appearance of the tumour cells indicated a lymphoid rather than an epithelial neoplasm. The absence of any sign of disease two years after operation is also more in keeping with lymphoma than anaplastic carcinoma.⁴ Difficulty may also arise in distinguishing the lymphoid infiltrate in Hashimoto's thyroiditis from lymphoma. In this case there was no serological

evidence of thyroiditis and the appearance of the infiltrating cells left no doubt that they were malignant. Most of the viable tumour cells formed E-rosettes, indicating a lymphoma of T-cell type.^{1,5}

While a few T-cell lymphomas have been reported in adults, most have been found in young people in whom a mediastinal mass has often been present and who have tended to develop a leukaemic blood picture.² Our patient is older and had a normal blood picture. We are not aware of any other reports of lymphocyte surface marker studies on primary lymphomas of the thyroid. It will be of interest to see whether the cells of other thyroid lymphomas are of T-cell, B-cell, or histiocytic origin, or are receptor-silent and of "null" type.

We thank Dr R A G Brown for the histology report and Mr R F Fawkes for the electronmicrograph.

Requests for reprints should be addressed to: Dr J B MacGillivray, Department of Pathology, Ninewells Hospital, Dundee DD2 1UB.

¹ Bloomfield, C D, *et al*, *Lancet*, 1976, **2**, 1330.

² Nathwani, B N, Kim, H, and Rappaport, H, *Cancer*, 1976, **38**, 964.

³ Dunbar, J A, *Lancet*, 1975, **1**, 222.

⁴ Smithers, D W, *Tumours of the Thyroid Gland*. Edinburgh, Livingstone, 1970.

⁵ Peter, C R, MacKenzie, M R, and Glassy, F J, *Lancet*, 1974, **2**, 686.

(Accepted 3 May 1977)

Departments of Pathology and Surgery, Ninewells Hospital, Dundee DD2 1UB

J A DUNBAR, MB, MRCP, general practitioner (formerly registrar in pathology)

M H LYALL, CHM, FRCS, consultant surgeon

J B MacGILLIVRAY, MB, FRCPATH, consultant pathologist

R C POTTS, FILMS, senior technician

Neonatal hyperbilirubinaemia: a comparison between prostaglandin E₂ and oxytocin inductions

The use of oxytocin in the induction of labour has been implicated as a cause of neonatal hyperbilirubinaemia.¹ Neonatal hyperbilirubinaemia, however, does not seem to result from induction with prostaglandin E₂ (PGE₂),² though some studies³ suggest differently. The present study compares the incidence of neonatal hyperbilirubinaemia in patients who are induced with oxytocin with the incidence in those who are induced with PGE₂.

Patients, methods, and results

One hundred and thirty-five patients and their infants were studied prospectively. They were separated into three groups. Group A consisted of patients who were induced by low amniotomy followed by PGE₂ by mouth. The dosage of PGE₂ was adjusted to the patients' response. Initially 0.5 mg was given and was repeated at hourly intervals. If the uterine activity was inadequate 1 mg (two tablets) was given hourly until uterine contractions were established. Group B consisted of patients induced by simultaneous low amniotomy and intravenous oxytocin infusion regulated with a Tekmar pump. Group C consisted of patients whose labour started spontaneously with no prostaglandins or oxytocin.

Cord blood was obtained after delivery and the infant's blood was collected by heel prick on the third and sixth postnatal days. Total serum bilirubin levels were estimated by a spectrophotometric method within 24 hours. Some infants were excluded from the trial for the following reasons: (1) low birth weight (under 2500 g), (2) haemolytic disease, (3) infection, (4) instrumental delivery or caesarean section, (5) gestation of under 37 weeks, and (6) discharge from hospital after 48 hours.

The mean (±SD) serum bilirubin levels of the infants in each group at the first, third, and sixth days are shown in the table. Statistical analysis, using a two-sample *t* test, showed that the mean serum bilirubin concentrations of infants delivered after induction with oxytocin (group B) were significantly higher ($P < 0.01$) on each of the three days compared with those of infants delivered after spontaneous labours (group C). A comparison of the neonatal bilirubin levels after labours induced by PGE₂ (group A) and spontaneous labours (group C) showed no significant difference ($P > 0.05$). Taking a serum bilirubin level of less than 205 μmol/l (12 mg/100 ml) as within normal limits in the neonatal period, two out of 45 infants (4%) in group A, six out of 45